

THE GENUS *MATRATINEA* IS NEW TO CHINA, WITH DESCRIPTIONS OF TWO NEW SPECIES (LEPIDOPTERA: TINEIDAE)¹

Yunli Xiao^{2,3} and Houhun Li²

ABSTRACT: The genus *Matratinea* Sziráki, 1990 is recorded for the first time from China. Two new species are described based on the specimens collected from Hubei, Fujian and Gansu provinces of China. The photographs of the adults and the male genitalia as well as the drawings of the venations are provided. A key to the species of the genus is given.

KEY WORDS: Lepidoptera, Tineidae, *Matratinea*, new species, China

György Sziráki (1990) established the genus *Matratinea* on a basis of the specimens collected by G. Szöcs from Hungary. The genus is superficially similar to *Infurcitinea* Spuler, 1910, *Eudarcia* Clemens, 1860 (partim-as *Meessia* Hoffmann, 1898) and *Agnathosia* Amsel, 1954, but possesses a unique genital structure — the process originated from the costa of the valva bearing a row of tubular pecten at apex. In this study, we report the genus for the first time from China and add two new species to *Matratinea* based on the examination of the specimens collected from China. The generic diagnosis is emended according to the descriptions of the male.

The type specimens are deposited in the Insect Collection, College of Life Sciences, Nankai University, Tianjin, China.

SYSTEMATIC ENTOMOLOGY

Matratinea Sziráki, 1990

Matratinea Sziráki, 1990: 193.

Type species: *Matratinea rufulicaput* Sziráki and Szöcs, 1990

Head covered with erect piliform scales. Labial palpi slender, projecting; second segment carrying sparse lateral bristles. Maxillary palpi five-segmented, folded. Antennae about 0.7-0.9 times length of forewings; scape with pecten; each flagellar segment covered with one annulus of narrow scales; cilia with length about equal to diameter of flagellomere.

Wings: Forewings with width about 0.25 times of length; apex pointed or obtusely pointed; Sc reaching 3/7 of costal margin, R₅ terminated in costal margin, 2A inconspicuous; white or ochreous-white with dark brown spots and streaks, or dark brown with yellow spots and streaks. Hindwings with width about 0.26-0.29 times of length; apex pointed; Sc+R₁ reaching 3/5 of costal margin, Rs terminated in costal margin. Fore tibia with epiphysis; hind tibia with medial spurs located at basal 1/3.

Abdomen: First segment with tergum lacking any sclerotized structure in sclerotized frame, narrowly fused with second segmental tergum in middle. Second segment with sternum somewhat rectangular, sometimes concave on posterior margin;

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² College of Life Sciences, Nankai University, Tianjin 300071 China. E-mail: lihoun@nankai.edu.cn. To whom correspondence and reprint requests should be addressed.

³ College of Life Science and Engineering, Huanggang Normal University, Huanggang 438000 China. E-mail: xiaoyunli0817@126.com.

tergum somewhat trapezoidal. Eighth segment with anterior margin heavily sclerotized, lateral side possessing one small haired brush.

Male Genitalia: Uncus fused with tegumen, gradually narrowed or subrectangular. Gnathos absent. Valva with one developed process at base or at middle of costa, which carries a pecten of hollow and strongly melanized spines at apex or near apex. Transtilla present; apodemes touching each other at ends. Vinculum broad. Saccus gradually narrowed or slender. Aedeagus curved or straight, with numerous small spiny cornuti.

Female: Unknown.

Distribution: China (Hubei, Fujian, Gansu); Hungary.

Remarks: *Matratinea* is similar to *Agnathosia* Amsel, 1954, superficially, but can be distinguished by the process of the valva possessing a row of tubular pecten; the transtilla bifurcate with apodeme of valva; and the aedeagus with cornuti composed of numerous tiny spines. In *Agnathosia*, the valva lacks the tubular pecten; the transtilla is absent and the aedeagus carries one slender, elongate cornutus.

This genus also resembles *Eudarcia* Clemens, 1860 in male genitalia, but it distinctly differs from the latter in the following aspects: antennae covered by one annulus of narrow scales in each flagellar segment; foretibial epiphysis present; abdomen without glands; process of valva bearing a row of tubular pecten at apex; aedeagus with numerous small spiny cornuti. In *Eudarcia*, each flagellar segment is covered by two annuli of scales; the foretibial epiphysis is absent; in males of many species two conspicuous wrinkled glands open into the pleural membrane close to the sternum of the third abdominal segment; the process of the valva lacks the tubular pecten; the aedeagus bears at least one digitate or spine-like cornutus (Robinson and Nielsen, 1993).

Key to the species of *Matratinea* Sziráki

1. Aedeagus long, without annulus of hairs in distal portion2
 Aedeagus short, with one annulus of hairs at about distal 1/4
 *M. rufulicaput* Sziráki and Szöcs
2. Valva broadly rounded in distal portion, costa with a rectangular process near base
 *M. latirotonda* sp. n.
 Valva somewhat triangular in distal 2/5, costa with a digitate process at about 3/5
 *M. trilineata* sp. n.

Matratinea trilineata sp. n.

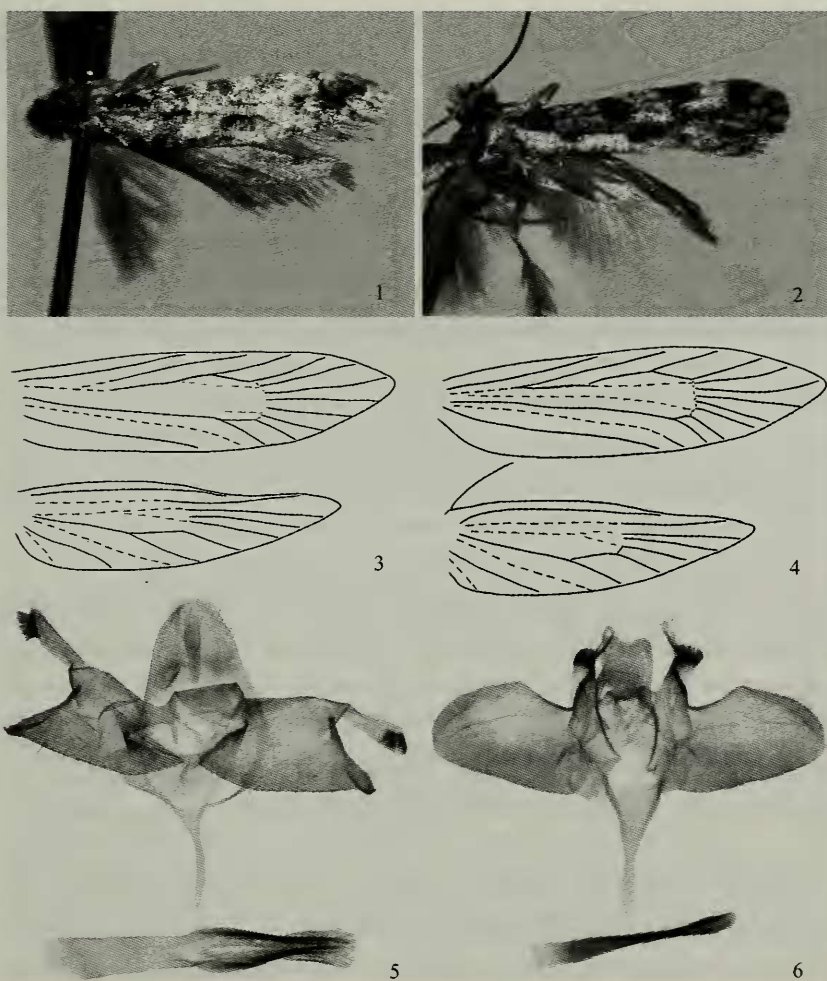
(Figs. 1, 3, 5)

Type Material. Holotype ♂, China: Bifenggou, Wen County (32°58'N, 104°41'E), Gansu Province, alt. 860 m, 11. Jul. 2005, leg. YU Haili, genitalia slide no. XYL05025. Paratype: 1 ♂, Bajiaomiao, Shennongjia Nature Reserve (31°45'N, 110°40'E), Hubei Province, alt. 1100 m, 19. Jul. 2003, leg. HAO Shulian.

Description (Figs. 1, 3). Wingspan 10.5 mm. Head with piliform scales ochereous yellow except dark brown at apex. Labial palpi ochereous white but ochereous brown at base of third segment. Antennae dark brown; scape ochereous white. Thorax dark brown mixed with ochereous white. Tegulae with anterior half dark brown, posterior half ochereous white. Forewings with basal distance between R_2 and R_3 5.7 x that between R_3 and R_4 ; ochereous white, with scattered dark brown scales; three incon-

spicuous dark brown streaks extending from costal 1/3, 2/3, and 3/4 to dorsal margin respectively; large dark brown spot situated at base and between above streaks; cilia ochreous white. Hindwings and cilia grayish white, cilia with length almost equal to width of hindwing.

Male genitalia (Fig. 5): Uncus broad, quadrate or shield-shaped; inflexed in triangle laterally; densely covered with long hairs on inner side, with microtrichia laterally and caudally. Subscaphium inconspicuous or weakly sclerotized, narrowly elongate. Valva with basal 3/5 broad, subrectangular, distal 2/5 subtriangular; apex with a small, pointed, tooth-like process; ventral margin slightly curved; costa curved at 3/5, forming an obtuse angle; costal process originating from about 3/5, elongately digitate, bearing a pecten of 12-15 hollow and strongly melanized spines near apex on ventral margin. Transtilla small; apodemes joined by a broad, weakly sclerotized plate. Vinculum narrow, cestiform. Saccus nearly as long as tegumen, basal 1/3 gradually narrowed, distal 2/3 slender, elongate, pointed at apex. Aedeagus stout and straight, with length about 1.5 x valva, slightly sinuate laterally; cornuti composed of many small spines.



Figs. 1-6. *Matratinea* spp. 1, 3, 5. *Matratinea trilineata* sp. nov.: 1. adult; 3. wing venation; 5. male genitalia (holotype, gen. slide no. XYL05025). 2, 4, 6. *Matratinea latirotonda* sp. nov.: 2. adult; 4. wing venation; 6. male genitalia (holotype, gen. slide no. XYL05080).

Female: Unknown.

Distribution. China (Gansu, Hubei).

Diagnosis. This species is similar to *Matratinea rufulicaput* Sziráki and Szöcs. It can be distinguished by the forewings ochreous white, with three inconspicuous streaks extending from costal margin to dorsal margin; the aedeagus stout and slightly curved laterally, lacking annulus of hairs distally. In the latter species, the forewings are grayish brown, with one conspicuous yellow streak extending from costal margin to dorsum; the aedeagus is long and curved, with one annulus of hairs at about distal 1/4.

Etymology. The specific name is derived from the Latin *trilineatus* (= trilinear), in reference to the forewings with three dark brown, inconspicuous streaks extending from costal margin to dorsum.

Matratinea latirotonda sp. n.

(Figs. 2, 4, 6)

Type Material. Holotype ♂, China: Mt. Wuyi (26°54'N, 116°42'E), Fujian Province, alt. 600 m, 27. May 2004, leg. YU Haili, genitalia slide no. XYL05080. Paratype: 1 ♂, same data as holotype.

Description (Figs. 2, 4). Wingspan 8.5-9.5 mm. Head white, with two small tufts and dark brown piliform scales on vertex and occiput. Labial palpi white on inner side, dark brown on outer side except white apex. Antennae dark brown; scape white. Thorax and tegulae dark brown mixed with white scales, tegulae white on posterior margin. Forewings with distance between R_2 and R_3 at base about 7.5 x that between R_3 and R_4 ; white; dark brown spot located at base, 2/5, 3/5 and near apex of costal margin respectively, extending to about lower margin of cell, the last two spots joined by a transverse dark brown bridge at distal end; small dark brown spot situated at 1/3 and 3/4 of anal fold and near end of dorsal margin respectively, the last one joined with the above bridge; a discontinuous dark spot placed at apex; cilia dark brown mixed with white. Hindwings gray; cilia grayish white, length almost equal to width of hindwing.

Male genitalia (Fig. 6): Uncus subquadrate, with numerous microtrichia near caudal margin; caudal margin concave in broad V form. Subscaphium weakly sclerotized, somewhat rounded. Valva large and broad, rounded apically; ventral margin nearly straight; costa convex at about middle, costal process near base, rectangular, strongly sclerotized and V-shaped medially, carrying a pecten of about ten hollow and strongly melanized spines and four long, curved spiny hairs at inner end of apex, distally incurved with long hairs. Transtilla slender and elongate, broadly triangular basally; apodemes triangular, joined by a narrow, sclerotized band. Saccus subtriangular in basal half, narrowed in distal half, pointed at apex. Aedeagus straight, slightly longer than length of valva, narrowed medially.

Female: Unknown.

Distribution. China (Fujian).

Diagnosis. This species is similar to *Matratinea trilineata* sp. n. and *M. rufulicapa* Sziráki and Szöcs, 1990. It can be easily recognized by the uncus concave in V-shape on caudal margin; the valva broad and rounded in distal part, and the costa with a rectangular process near base. In the latter two species, the uncus is arched or broadly rounded on caudal margin; the valva is triangular in distal 2/5, and the costa has an elongate, digitate process at about 3/5. In addition, the forewings of the latter two species bear distinctly different patterns of spots or streaks.

Etymology. The specific name is derived from the Latin prefix *lati-* (= broad), and the Latin *rotundus* (= rounded), in reference to the valva with apex broad and rounded.

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MADELINE BIETZ RECEIVES THE AMERICAN ENTOMOLOGICAL SOCIETY'S CALVERT AWARD

In 1987, the American Entomological Society initiated the Calvert Award to be presented to a young person who has demonstrated outstanding accomplishments in insect-related studies. The Award is named in honor of Dr. Philip P. Calvert, who joined the Society as a teenager, later became its President, and was a member for 74 years. As Professor of Biology at the University of Pennsylvania, Associate of the Academy of Natural Sciences of Philadelphia, and long time Editor of *Entomological News*, Dr. Calvert played an important role in stimulating an interest in insects among young people.

This year, the 22nd Calvert Award was presented to Madeline Bietz, from Philadelphia, Pennsylvania, an eleventh grade student at Springside School. Her project was entitled, "The Effects of Turbulence on Butterfly Flight." Her project was selected from among about 20 insect-related science projects presented at the annual Delaware Valley Science Fairs held on April 2 at the Valley Forge Convention Center. Madeline said she was inspired by spending hours watching butterflies at the Academy of Natural Sciences Living Butterfly Exhibit. The judges for the award were impressed by Madeline's inventiveness and enthusiasm.

Two other students received recognition for their insect-related science projects. These included Matthew Nicewater, an eleventh grade student from Morton, Pennsylvania, whose project, "The More the Merrier?", dealt with the number of termites necessary to sustain a colony for almost six months. He was the first runner-up for the Calvert Award. Second runner-up went to sixth-grader Shyanne Marquette of West Chester, Pennsylvania, for her project, "Mosquito Attraction."

All students were honored at the Calvert Award ceremonies held on April 23 at the Academy of Natural Sciences in Philadelphia. Dr. Susan King, President of the American Entomological Society, presented them with certificates of accomplishment and memberships in the American Entomological Society.

Harold B. White
Department of Chemistry and Biochemistry
University of Delaware, Newark, Delaware 19716 U.S.A.
E-mail: halwhite@udel.edu